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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/451,506	11/30/1999	GRAHAM W. GLASS	073388.0120	9157

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EXAMINER

MIRZA, ADNAN M

ART UNIT	PAPER NUMBER
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2141

DATE MAILED: 12/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/451,506

Applicant(s)

GLASS, GRAHAM W.

Examiner

Adnan M Mirza

Art Unit

2141

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Apte et al (U.S. 6,269,373), McQuistan et al (U.S. 6,321,275) and in view of Chang (U.S. 6,282,580).

As per claim 1 Apte disclosed a system for communication between an object request broker (ORB) and a Common Object Request Broker Architecture (CORBA) object request broker, comprising: a non-CORBA object request broker executing on a client system and providing inter-object communication support between the client system and a server system, the client System connected to the server system by a network (col. 9, lines 50-67);

However Apte failed to disclose the object request broker operable to generate a class with a type code and a communication protocol without generating a stub or a skeleton associated with CORBA-compliant object request brokers.

In the same field of endeavor McQuistan disclosed in the preferred embodiment, the interpreter performs all marshalling and unmarshalling and on the server side the preferred embodiment performs its processing without the need for stubs. Therefore, the preferred embodiment of the present invention significantly reduces storage requirements for code and data for performing remote procedure calls (col. 11, lines 49-55).

Art Unit: 2141

However Apte-McQuistan failed to disclose a reference object in the object request broker operable to encode outgoing communications into an Internet Inter-ORB Protocol (IIOP) format according to the communication protocol in the generated class, the reference object further operable to decode incoming communications from Internet Inter-ORB Protocol (IIOP) format into a format native to the object request broker.

In the same field of endeavor Chang disclosed a reference object in the object request broker operable to encode outgoing communications into an Internet Inter-ORB Protocol (IIOP) format according to the communication protocol in the generated class, the reference object further operable to decode incoming communications from Internet Inter-ORB Protocol (IIOP) format into a format native to the object request broker (col. 6, lines 40-63).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated in the preferred embodiment, the interpreter performs all marshalling and unmarshalling and on the server side the preferred embodiment performs its processing without the need for stubs. Therefore, the preferred embodiment of the present invention significantly reduces storage requirements for code and data for performing remote procedure calls including a reference object in the object request broker operable to encode outgoing communications into an Internet Inter-ORB Protocol (IIOP) format according to the communication protocol in the generated class, the reference object further operable to decode incoming communications from Internet Inter-ORB Protocol (IIOP) format into a format native to the object request broker as taught by McQuistan-Chang in the system of Apte to be more

Art Unit: 2141

cost friendly and reduce latency by requiring less processing and storage space and also make the communication among the systems more secure.

3. As per claim 2 Apte-McQuistan-Chang disclosed a CORBA object request broker executing on the server system (Chang, col. 9, lines 50-55).
4. As per claim 3 Apte-McQuistan-Chang disclosed one or more streamers coupled to the reference object, the one or more streamers corresponding in number to methods of a target object, the one or more streamers serially sending bytes of outgoing communications to the server system (Apte, col. 18, lines 29-52).
5. As per claim 4 Apte-McQuistan-Chang disclosed a client application on the client system (Apte, col. 9, lines 50-55).
6. As per claim 5 Apte-McQuistan-Chang disclosed a target object on the server system (Apte, col. 9, line 59-67).
7. As per claim 6 Apte-McQuistan-Chang disclosed wherein the class is generated from Interface Description language (IDL) definitions (Apte, col. 10, lines 29-41).

Art Unit: 2141

8. As per claim 7 Apte-McQuistan-Chang disclosed wherein the non-CORBA object request broker provides an ORB-specific implementation of the IDL class having information to communicate with other ORBs (Apte, col. 10, lines 29-41).

9. As per claim 8 Apte-McQuistan-Chang disclosed wherein a remote proxy sends the outgoing communication to the reference object (Apte, col. 12, lines 47-54).

10. As per claim 9 Apte-McQuistan-Chang disclosed wherein the remote proxy receives the outgoing communication from an application on the client system (Apte, col. 12, lines 47-59).

11. As per claim 10 Apte-McQuistan-Chang disclosed wherein the reference object receives incoming communications from the server system (Chang, col. 6, lines 44-51).

12. As per claim 11 Apte-McQuistan-Chang disclosed wherein the type code identifies a structure corresponding to an Interface Description Language definition and provides communication support between CORBA and non-CORBA ORBs (Apte, col. 10, lines 34-41).

13. As per claim 12 Apte-McQuistan-Chang disclosed substantially the invention in claim 1 including a method for communication between an object request broker and a Common Object Request Broker Architecture CORBA object request broker, comprising: invoking a method of a target object on a client system by an application on a server system (Apte, col. 7, lines 7-17); generating a class with a type code and a communication protocol without generating a stub or a

Art Unit: 2141

skeleton associated with CORBA-compliant object request brokers; forwarding the method invocation to a reference object associated with the communication protocol in a client object request broker executing on the client system (McQuistan, col. 11, lines 49-55); encoding the method invocation into Internet Inter-ORB Protocol (IIOP) format (Chang, col. 4, lines 32-44); sending the encoded method invocation to a first object request broker executing on the server system; and invoking the method on the target object (Chang, col. 6, lines 44-65).

14. As per claim 13 Apte-McQuistan-Chang disclosed wherein sending the encoded method invocation includes: forwarding the encoded method invocation to one of one or more streamer objects corresponding to a method invoked by the encoded method invocation (col. 4, lines 32-38); and serially streaming bytes of the encoded method invocation to the server object request broker (Chang, col. 4, lines 39-44).

15. As per claim 14 Apte-McQuistan-Chang disclosed forwarding a result of the method invocation to the server object request broker; transmitting the result to the client object request broker executing on the client system (Chang, col. 6, lines 52-59); receiving the result encoded in Internet Inter-ORB Protocol (IIOP) format in the reference object; decoding the result into a format native to the client object request broker; and forwarding the result to the application (Chang, col. 4, lines 32-49 & col. 6, lines 60-67).

Applicant's arguments are as follows:

Art Unit: 2141

16. Applicant argued that prior art did not disclose a client system a class with a type code and a communication protocol without generating a stub or skeleton as provided by independent claims 1 and 12.

As to applicant's argument McQuistan disclosed the interpreted RPC of the present invention is described below relative to embodiments will be apparent to one skilled in the art. The preferred Embodiment performs interpreted RPC, without the use of stubs on the server side. Therefore no code or data is duplicated on the server side, thereby saving significant amounts of storage. (col. 5, lines 16-21). The Fig. 1 of Mcquistan clearly disclosed the two embodiments the one with the stub and the other without the stub.

### ***Conclusion***

**17. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**



Art Unit: 2141

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

18. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Adnan Mirza whose telephone number is (703)-305-4633.

19. The examiner can normally be reached on Monday to Friday during normal business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703)-305-4815. The fax for this group is (703)-746-7239.

20. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

(703)-746-7239 (For Status Inquiries, Informal or Draft Communications, please label "PROPOSED" or "DRAFT");

(703)-746-7239 (For Official Communications Intended for entry, please mark "EXPEDITED PROCEDURE"),

(703)-746-7238 (For After Final Communications).

Art Unit: 2141

21. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-305-3900.

Any response to a final action should be mailed to:

BOX AF

Commissioner of Patents and Trademarks Washington, D.C.20231

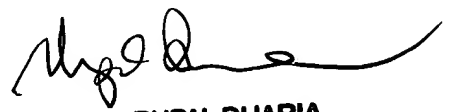
Or faxed to:

Hand-delivered responses should be brought to 4<sup>th</sup> Floor Receptionist, Crystal Park II,  
2021 Crystal Drive, Arlington, VA 22202.



Adnan Mirza

Examiner



**RUPAL DHARIA**  
**SUPERVISORY PATENT EXAMINER**